

## ABSTRACT OF THE DISCLOSURE

1 Network configuration hierarchy information is maintained using flexible  
2 mechanisms and methods for establishing routes and transferring information between nodes  
3 in ad-hoc data communication networks using on-demand multicast and unicast techniques.  
4 Communication nodes use network topology information to build and maintain a dynamically  
5 mobile, wireless, ad-hoc network capable of efficiently routing both unicast and multicast  
6 traffic. Network nodes that facilitate the collection and distribution of network topology and  
7 routing data are dynamically selected, configured, and maintained. Network traffic overhead  
8 necessary for maintaining and distributing network routing table information is held to a  
9 minimum and efficiently distributed across the network, thereby reducing the potential for  
10 network traffic bottlenecks due to network overhead processes.

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